

REMARKS/DISCUSSION OF ISSUES

Claims 2, 4-8, 10-11, 13, 15-16, 19 and 21-38 are pending in the application.

Reexamination and reconsideration are respectfully requested in light of the following Remarks.

35 U.S.C. §§ 102 and 103

The Office Action rejects: claims 2, 4-8, 10, 11, 13, 15, 16, 19, 21-24 and 27 under 35 U.S.C. § 102 over Yamada et al. U.S. Patent 6,081,614 ("Yamada"); and claims 25, 26 and 28-38 under 35 U.S.C. § 102 over Yamada.

Applicants respectfully traverse these rejections and submit that all of the claims 2, 4-8, 10-11, 13, 15-16, 19 and 21-38 are patentable over Yamada for at least the following reasons.

Claim 5

Among other things, the method of claim 5 includes receiving first image data representing an object.

Applicants respectfully submit that Yamada does not disclose a method which receives first image data representing an object.

Yamada discloses a system and method for detecting a wafer surface position for a scanning exposure apparatus for performing a photolithography process on the wafer. Yamada's system and method performs a pre-scan for a plurality of exposure regions of the wafer by providing six light beams onto six measurement points on the wafer's surface at each of the exposure regions, receiving the reflected light at six one-dimensional CCD line sensors, and calculating a measurement error with respect to the position of the surface of the wafer at each of the exposure regions.

The Office Action states that Yamada discloses receiving first image data representing an object as step 103 in the flowchart of FIG. 5.

Applicants respectfully disagree.

Yamada discloses that step 103 in the flowchart of FIG. 5 is a pre-scan where surface positions are measured at a plurality of locations on the surface of a wafer.

Yamada does not disclose that step 103 involves any **image** data representing

the wafer (or any other object).

So Yamada does not disclose the method of claim 5.

Also among other things, the method of claim 5 includes determining an incorrect classification of at least one feature of the object.

Yamada does not **classify** any features of the wafer. Yamada does not determine any **incorrect classification** of any features of the wafer. Instead, Yamada just determines an error value in the position of the wafer with respect to the exposure illumination system 6 and lens 1.

So, again, Yamada does not disclose the method of claim 5.

Claims 2, 4, 6-8 and 10-11

Claims 2, 4, 6-8 and 10-11 depend from claim 5 and are deemed patentable for at least the reasons set forth above with respect to claim 5, and for the following additional reasons.

Claim 4

Among other things, in the method of claim 4, producing the first image data includes capturing a first image of the object, and producing the second image data includes capturing a second image of the object.

Yamada does not capture any image of the wafer.

Accordingly, for at least these additional reasons, Applicants respectfully submit that claim 4 is patentable over Yamada.

Claim 8

Even if Yamada actually did disclose adjusting a focus used in acquiring an image of the wafer (which it does not teach), “focus” is clearly not an image **processing** parameter (it is an image acquisition parameter). Indeed, focus is a parameter used to produce an image (in Yamada, the “focus” cited repeatedly in the Office Action produces an image of the reticle on the wafer). “Focus” is not a parameter for processing a captured image.

Claim 10

Yamada does not process any raw image data that represents an image of the surface opposition of the object. Indeed, Applicants respectfully submit

that the phrase “image of the surface opposition of the object” does not even make any sense.

Claim 11

Focus is not a parameter that indicates a processing type.

Claim 15

Among other things, the method of claim 15 includes setting at least one image acquisition parameter to capture a first image of the object; and determining an incorrect classification of at least one feature of the object based on first image data representing the first image captured using said setting.

As explained above, Yamada does not capture any image of its wafer, nor does it classify any feature of the wafer.

Accordingly, for at least these reasons, Applicants respectfully submit that claim 15 is patentable over Yamada.

Claims 13 and 16

Claims 13 and 16 depend from claim 15 and are deemed patentable for at least the reasons set forth above with respect to claim 15.

Claim 21

Among other things, the inspection system of claim 21 includes a processor connected to receive first image data representing an object, the first image data being produced using an image parameter, wherein the processor includes a classification processor to receive the first image data, to determine an incorrect classification of at least one feature of the object based on the first image data as a result of an original setting of the image parameter, and to calculate image parameter modification information to correct the incorrect classification.

At the outset, the Office Action cites absolutely NOTHING in Yamada that supposedly corresponds to the recited processor, and more specifically, the classification processor.

Instead, the Office Action states that “all claimed limitations” in claim 21 “are set forth and rejected as per discussion for claims 2, 4-8, 10 and 11.

Applicants respectfully disagree.

Neither Applicants' claim 5, nor the Office Action discussion of claim 5, make any mention whatsoever of any classification processor.

Therefore Applicants respectfully submit that the rejection of claim 21 is clear error.

See also M.P.E.P. § 707.07(d).

Furthermore, Applicants respectfully submit that Yamada does not disclose any processor including a classification processor to receive the first image data, to determine an incorrect classification of at least one feature of the object based on the first image data as a result of an original setting of the image parameter, and to calculate image parameter modification information to correct the incorrect classification.

Accordingly, for at least these reasons, Applicants respectfully submit that claim 21 is patentable over Yamada.

Claims 19, 22-24 and 27

Claims 19, 22-24 and 27 depend from claim 21 and are deemed patentable for at least the reasons set forth above with respect to claim 21.

Claims 25, 26, and 28-38

Claims 25, 26, and 28-38 depend variously from claims 5, 16 and 21 and are deemed patentable for at least the reasons set forth above with respect to claims 5, 16 and 21, and for the following additional reasons.

The Office Action fairly admits that Yamada does not disclose ANY of the features of claims 25, 26, and 28-38.

However, the Office Action states that these features "*in this field of endeavor are notoriously well known and are commonly modified to enhance image output/quality.*"

Applicants respectfully disagree.

At the outset, Yamada does not even output an image of the wafer, and therefore has absolutely no interest in "*enhance*"-ing any "*output image/quality.*"

Furthermore, since the Office Action proposes to modify Yamada to obtain Applicants' claimed invention, the only relevant "field of endeavor" is the field of

endeavor of Yamada – which is the field of surface position detectors.

Applicants specifically traverse the statements that the claimed features are “*notoriously well known*” in Yamada’s field of endeavor. The Examiner provides absolutely zero evidence in support of these contentions. To the extent that the Examiner is taking Official Notice of these allegedly “*notoriously well-known*” features, Applicants respectfully request that the Examiner provide evidence in support of the Office Notice. See M.P.E.P. § 2144.03. If the Examiner is relying on personal knowledge to support the finding of what is known in the art, the Examiner is respectfully requested to provide an affidavit or declaration setting forth specific factual statements and explanation to support the finding. See 37 CFR 1.104(d)(2).

CONCLUSION

In view of the foregoing explanations, Applicants respectfully request that the Examiner reconsider and reexamine the present application, allow claims 2, 4-8, 10-11, 13, 15-16, 19 and 21-38 and pass the application to issue. In the event that there are any outstanding matters remaining in the present application, the Examiner is invited to contact Kenneth D. Springer (Reg. No. 39,843) at (571) 283.0720 to discuss these matters.

Respectfully submitted,

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